s nevertheless convenient, and probably correct, r nge them among the nucleobranchous mollusca. h e same order he was inclined to refer the shell d , by Dr. Fleming, *Fusus retroversus*, and which a rs to be identical with, or at least very nearly l to, the *Atlanta trochiformis* of M. D'Orbigny. r- Thompson produced a work of Sars, from n it appeared that a similar animal had been l near Bergen, in Norway. The animal in ques- t herefore, inhabited a large range from south to .—Dr. Allman had some years ago discovered *agitta* about an inch long, on the south coast of id, and regretted that he had not at the time portunity of describing it.—Mr. Thompson had Dr. Allman's drawing, and believed the two ds to be of the same kind.—Prof. Forbes said, ith regard to the position of the *nucleobranchiata* animal scale, he believed they were analogues Acalephæ, only higher up in the scale; they a step in the progression from polypes through ollusca up to the vertebrata. In this progres- hey passed through the cephalopoda, which esembled in many points. Although an animal be low down in the direct scale of classification, might possess many of the functions of beings up. Thus the cephalopoda frequently present vertebrate functions than many of the verte- themselves.

Mackay exhibited specimens of the Irish ges. He called attention to the species re- ng the London Pride (*Saxifraga umbrosa*), ith the specimens of the species he also ted several varieties of *S. geum*, *S. hirsuta*, *polita*, &c.—Mr. Babington remarked, that iga was a difficult genus to study. There nany specimens on the table, which, if they from different countries, would be naturally ed as species, but which, as they were all ed in Ireland, he had no hesitation in calling es. It was no proof that a plant was a species e it remained the same in cultivation for a ength of time, for many varieties did that. d paid great attention to the saxifrages, and of elonging to the London Pride tribe, he believed ly *S. umbrosa elegans*, *geum*, and *hirsuta*, were . The variety, *S. u.* of Mr. Mackay, was not ndon Pride of the English gardens, which was al with the London Pride of the Pyrenees.— Forbes said, that the difference between bota- ith regard to species and varieties, could only nciled by ascertaining from each writer an e of the value he attached to particular cha- For the want of this there was much con- even in Botany, but the evil was much greater logy. The vague manner in which the cha- of animals were drawn up by British zoolo- as a constant cause of complaint among con- l naturalists.

Rev. W. Hincks then called attention to two pecimens of the *Neottia gemmipara* of Smith. ry rare plant had been discovered by Mr. J. nond in a salt marsh near Castleton Bear- in the county of Cork, in 1810. From an im- specimen, Sir J. S. Smith had described and it, and it had not been seen again till 1841, t was re-found by Dr. Sharkey. Only one en was again obtained, and it was with diffi- dentified with the original specimen in the n Herbarium in London. Dr. Wood and rvey had, during the past week, both gathered pecimens, which were now on the table. The l plant was not a Neottia, as had been sup- y Smith, but was now referred to Spiranthes.— Bington stated, that he had carefully examined nt on the table, and believed that it was a e Spiranthes. It was a matter of great interest, ably this plant was one of the rarest in the There was no record of its having been found ere but in the locality from whence these spe- were brought.—Mr. Hincks stated, that some Californian plants received in London, en found what appeared to be a *Spiranthes ara*.

Allman exhibited specimens of a Linaria he had gathered in Ireland. He believed e a new species, and had described it at a g of the Royal Irish Academy. It had been ed to be the *Linaria Italica* of Treviranus, had also been found in England, but this plant differed in many respects from *L. Italica*.—Mr. Babington thought the plant of Dr. Allman differed from the English *L. Italica*. Should this Linaria be a new species it will probably be new to the European Flora.—Dr. Allman stated, that botanists in London had pronounced his plant a hybrid, and Mr. Mackay concurred with this opinion.—Dr. Allman then exhibited specimens of the very rare *Trichomanes speciosum*, and also of one discovered by Mr. Andrews of Dublin, which differed from it in many points, and which might probably turn out a new species. The principal features of difference that this fern presented were, the possession of bipennate fronds, long bristles, and the triangular form of its fronds: in all these points it differed from *T. speciosum*.—Mr. Mackay had cultivated the plant in question since Mr. Andrews discovered it, and it was his conviction that it was a new species.

FRIDAY.

The Secretary read a report from Mr. Blackwall, 'On the Functions of the Palpi of the Araneidæ,' which had been called for at the last meeting of the Association. After stating all the opinions hitherto formed, as to the functions of the palpi of the Araneidæ, the author detailed a series of experiments on the subject, and the conclusions derived from them.

Prof. Owen acknowledged the pleasure with which he had listened to this paper, and gave a complete view of the difficulties attending the assignment of the true function to the palpi of spiders. In alluding to a portion of Mr. Blackwall's paper, he gave an account of the structure and functions of the ovarial sac of aphides, accounting for the well known fact of the anomalous reproduction to which they were subject. He inquired whether any cases were recorded in which the ovary of plants bore seeds for successive periods without the contact of the pollen-tubes.—Dr. Lankester recollected the instance of a plant in the Botanic Garden at Kew bearing fruit and seeds, in which instance it was impossible to discover any organ resembling the stamen or assuming its functions.

Mr. Patterson then read a paper, by the Rev. J. B. Clarke, 'On the Irish Species of the Genus Limax.'—Two species were described in detail, which had not been included, by previous writers, in the British catalogue, the *Limax arboreus* of Bouchard, and the *L. Gagates* of Draparnaud and Ferussac. The *L. arboreus* is not uncommon in the wooded districts of Ireland, especially on the ash and the beech; concealing itself during the day-time under the moss and the trunk. *Limax Gagates* (Draparnaud), the Irish specimens of this limax agree with Ferussac's variety β. The only British species with which it can be compared, as to form, is *L. Sowerbii*. In some districts of Ireland the species is not uncommon; frequenting gardens and thick herbage. In the course of the paper all the British Limaxes were mentioned as occurring in Ireland, with the exception of *Limax brunneus* (Draparnaud), which had not as yet come under the notice of the author.

Prof. Forbes considered this as one of the most valuable papers that had been written on the genus Limax, which had been little attended to, though forming an important link in the scale of creation.—Mr. Thompson observed that this paper was interesting, as recording two forms of Limax in Ireland, which were not only new to Ireland, but did not at present exist in the British Fauna.

Dr. Allman then read a paper 'On the Anatomy of *Plumatella repens*,' which was illustrated by diagrams, as well as specimens of the animal preserved in spirit. The author divided his paper into two sections; in the first of which he gave the zoological characters of the zoophyte, and in the second entered into the zootomical details of its structure. In the first part of the paper it was attempted to reduce to some sort of order the chaotic mass of synonyms with which the zoophyte in question was encumbered. This was facilitated by keeping in mind the existence of two variations, which *Plumatella repens* is seen to assume. In one of these, the zoophyte will be found attaching itself to flat surfaces, as the under side of stones, and of the floating leaves of water plants, &c., being closely adherent in its entire extent. In the second variation it will be found fixed to surfaces of small extent, as submerged stems and pieces of stick, and, as the animal continues to develope, the branches having no extensive surface of attachment will become free, and a more or less enlarged bushy mass will be the result. *Plumatella repens* exhibits, in a high degree of perfection, the molluscan type of structure; and a distinct pharynx, stomach and intestine may easily be traced. Connected with the mouth, there is here, as well as in other fresh-water zoophytes of the same order, a very singular valve-like organ. The structure of the animal's stomach was described by Dr. Allman with much detail. Two distinct groups of muscles may be detected in *Plumatella repens*, one, which corresponds with the anterior set of retractor muscles, described by Dr. Fane in the Ascidian zoophytes of the sea; and another, analogous to the opercular muscles of this anatomist. The ova will be found to consist, as in those of Alcyonella, of a central disk, inclosing the embryonic matter, and of a rim which surrounds the disk, and from which it differs considerably in structure. The disk is formed of two membranes, each of which is composed of a single layer of minute vesicles. These membranes differ from each other in the size of the component vesicles; and as there is but a single layer of vesicles in each, one face of the disk must consequently be thinner than the other. Both faces are concave on one side and convex on the other, and the concave sides being opposed, and the edges united, a closed space is thus formed, which is filled by an immense number of minute whitish globules, floating in a gelatinous fluid, and which are afterwards to be developed into the perfect zoophyte. The walls of the disk are of a horny elastic texture, of a deep brown colour, and when emptied of their contents are found to possess some degree of transparency. There would appear to be no possible way by which the ova can be liberated from the tubes but by the decomposition of the latter; and we accordingly find, after the zoophyte has entirely disappeared from the surface of the stone, on which it crept, rows of these bodies occupying the place of the original polypidom, and mapping out its several ramifications. Notwithstanding the apparently complete destruction of the polypidom, the ova are found closely adherent to the substance to which the zoophyte had been fixed. This would appear to be effected through the medium of that portion of the tube to which they adhered, for the remainder of the polypidom, becoming decomposed and washed away by the action of the water, this alone remains, being protected on each side from the influence of external agents.

Prof. Owen then made several inquiries of Dr. Allman, with regard to the condition of the muscular fibres when in a state of contraction, and whether his observations, on this point, coincided with those of Dr. Arthur Fane.—Dr. Allman stated, in reply, that the muscles were shorter when acting, and sinuous, but he had not observed nodules in the muscles of fresh-water zoophytes.—Prof. Owen thought that Dr. Allman was right in placing these animals as allies of the compound Ascidia, in which position they must be regarded as analogous to, though having no close affinity with, the polyps. Their tentacula and the vibratile cilia of their respiratory organs were in accordance with their generally elevated structure. They have, in fact, a high degree of organization, but this was generally arrested in a low stage of developement.—Mr. Patterson stated, in connexion with the subject of the tunicated Ascidians, that he had often found, in the thoracic cavity of the *Ascidia communis*, numerous small crustaceous animals; he wished to know if this was a singular fact.—Mr. Peach then described the form of small bodies which he had found floating about in the water, in which he had kept specimens of the species of *Sertularia* and *Campanularia*. From the Sertularia there proceeded thousands of small globular bodies which were covered with cilia, and which were sensitive to the touch; he supposed these must be ova. He did not think they were the tentacula of the animal, as they were floating about by thousands.—Prof. Forbes, in reply to Mr. Patterson, stated, that the existence of crustacea was not unfrequent in the thoracic cavity of many of the tunicated mollusca. He had found them in the Salpa in great numbers. Some of these crustacea were very large. The phosphorescence of the Salpa, which was often observed, did not depend so much on the animal itself, as on the crustacea